

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)

Inventor: LUNGO)

Title: PORTABLE TOOL CARRIER FOR)
STEP LADDERS)

Serial No. 10/054,448)

Filing Date: 01/18/2002)

Examiner LUONG, S. T. T.

Group Art Unit 3728

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EXHIBIT G

TO

DECLARATION OF PRIOR INVENTION IN THE UNITED STATES
OR IN A NAFTA OR WTO MEMBER COUNTRY
TO OVERCOME CITED PATENT OR PUBLICATION (37 C.F.R. 1.131)

Brief Description: Reduced copy of U.S. Provisional Patent Application S/N
60/262,501, filed January 18, 2001.

SPECIFICATION

To whom it may concern:

Be it known that I, Philip M. Lungo, a citizen of the United States, residing at 5920 Park Ridge Road, Loves Park, Illinois 61115, have invented a new and useful PORTABLE TOOL CARRIER FOR STEP LADDERS, of which the following is a specification.

electrical tape, and various pliers, wire cutters and strippers, manual and/or power screwdrivers, a small power drill, and the like in a position that is accessible and within reaching distance while on the ladder. It is also
5 convenient if such items and tools can be stored together

Probably the most common conventional prior method for keeping hand tools and the like within reaching distance while working on a ladder is to wear a tool belt in which such tools are stored.

10 Another method used includes placing the desired tools into a bucket and hanging the bucket from an upper rung of the ladder.

A review of issued patents reveals numerous prior art tool carriers available for use with step ladders. However,
15 each of these tool carrier suffer from one or more of several disadvantages.

Accordingly, there is a need for an improved portable tool carrier that is suitable for use with a step ladder, that fits snugly on the top of the ladder, and that is
20 adapted to carry the tools loaded therein when removed from the ladder for storage of the tools.

PORTABLE TOOL CARRIER FOR STEP LADDERS

Cross-references to related applications - none.

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Background of the Invention

1. Field of Invention

The present invention relates generally to portable
10 tool carriers.

More particularly, the invention relates to portable tool carriers adapted for use with step ladders and to alternately store tools on a table, shelf or other horizontal surface.

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2. Description of Prior Art

When working on a step ladder, it is often advantageous to have available within convenient reaching distance certain tools and other items that might be needed or useful
20 for accomplishing the task at hand.

Having such tools available within reaching distance when up on the ladder reduces the time needed to complete the task by eliminating the need to descend from the ladder to get a tool and then climb back up the ladder.

25

For example, if performing electrical work while on a ladder, it is convenient to have wire connectors and

Summary of the Invention

The general aim of the present invention is to provide new and improved portable tool carrier that is uniquely
5 adapted for:

1. storing tools on a step ladder within easy reaching distance when working on the ladder,
2. fitting snugly and securely onto the top of the ladder,
- 10 3. ease of slipping onto and off of from the ladder, and

4. retaining its structural and tool carrying shape for ease of storage of the carrier including the tools therein when not in position on the ladder

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More detailed objectives of the invention are to achieve the foregoing by providing a tool carrier provided with:

1. a top adapted to rest on the top step of the step ladder,
- 20 2. a skirt extending downwardly from the perimeter of the top, the skirt including front, back and side panels enclosing the top step portion of the ladder and sized to slip slidably but snugly around the upper portion of the step ladder.

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- a) the front, back and side panels of the skirt being provided with pockets adapted to

receive and releasably carry tools and other items of use when working on the ladder,

b) the front, back and side panels being independently moveable for expansion and contraction of the interior space receiving the upper portion of the ladder.

3. elastic bands connected between adjacent edge portions of the panels for biasing the panels snugly onto the ladder, and to accommodate different sized ladders, and

4. a frame structure including independent frame members connected to each of the top, front, back and side panels and cooperating to provide structural stiffness to the tool carrier and to retain the tool carrier in its desired shape for ease of carrying tools and storing between uses on the ladder.

These and other objectives and advantages of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

Brief Description of the Drawings

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Figure 1 is a left-front perspective view of a new and improved tool carrier in accordance with and incorporating certain unique aspects of the present invention.

Figure 2 is front view of the tool carrier of Figure 1.

Figure 3 is left side view of the tool carrier of Figure 1, the right side view being a mirror image thereof.

Figure 4 is a rear view of the tool carrier of Figure 1.

Figure 5 is a top view of the tool carrier of Figure 1.

Figure 6 is a bottom view of the tool carrier of Figure 1.

Figure 7 is a right-rear perspective view of the tool carrier of Figure 1.

Figure 8 is a left side view of the upper portion of a step ladder and showing the tool carrier of Figure 1 in dashed lines in position thereon.

Figure 9 is a left-front perspective view of an alternate embodiment tool carrier in accordance with and incorporating certain unique aspects of the present invention.

Figure 10 is a front view of the tool carrier of Figure 9.

Figure 11 is left side view of the tool carrier of Figure 9.

Figure 12 is a rear view of the tool carrier of Figure 9.

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Figure 13 is a top view of the tool carrier of Figure 9.

Figure 14 is a bottom view of the tool carrier of Figure 9.

Figure 15 is a right-rear perspective view of the tool carrier of Figure 9.

Figure 16 is right side view of the tool carrier of Figure 9.

Figure 17 is a left-front perspective view of an internal supporting frame structure of the tool carrier of Figure 9.

Figure 18 is an enlarged fragmentary view of certain portions of the tool carrier shown in Figure 9.

Figure 19 is a fragmentary cross-sectional view taken substantially along the line 19-19 of Figure 18.

Figure 20 is a view similar to Figure 19 but showing the carrier panels expanded from one another.

Figures 21-23 are front, side and top views, respectively, of a closed-bottom tool holder adapted for use with the tool carriers of Figures 1 and 9.

Figures 24-26 are front, side and top views, respectively, of an open-bottom ring tool holder.

Figure 27 is a front view of a paper towel roll tool holder.

Figure 28 is a right side view of the paper towel tool holder of Figure 27.

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While the invention is susceptible of various modifications and alternative constructions, a certain illustrated embodiment has been shown in the drawings and will be described below in detail. It should be understood, however, that there is no intention to limit the invention to the specific forms disclosed, but on the contrary, the intention is to cover all modifications, alternative constructions, and equivalents falling within the spirit and scope of the invention.

Detailed Description of the Invention

For purposes of illustration, one embodiment of a tool carrier according to the present invention is shown in the drawings as embodied in carrier 10 shown in Figures 1-7.

In accordance with one aspect of the present invention, the tool carrier 10 is uniquely adapted for use with a folding step ladder 20 (Figure 8) and for alternately carrying tools in a free-standing position on a horizontal surface 22 such as a work bench, table, or shelf.

More particularly, the tool carrier 10 is adapted to slip over and be supported by the top step 24 of the step ladder for carrying tools within easy reach while working on the ladder, and to stand upright when placed on the

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horizontal surface in a manner to support the tools carried therein.

As a result, the tool carrier 10 is uniquely adapted for alternate uses including ease of installation onto and removal from the top step of the ladder, for availability of the tools at other locations, and for storage of the tools in anticipation of the next use.

In carrying out the invention, the tool carrier 10 is formed with a top 30 and a skirt 40 depending downwardly from the perimeter portion of the top 30.

The skirt 40 is sized to slidably but snugly slip downwardly over and encircle the upper portion of the step ladder 20, with relatively little to no sideways or front to back free movement available with the top 30 resting on the top step 24 of the ladder.

To this end, the top 30 is shaped to conform to the rectangular shape of the top step 22 of the conventional folding step ladder, and the skirt comprises generally rectangular front and back panels 26a and 26b, respectively, and side panels 28 with a trapezoid shape, decreasing in width upon progressing upwardly toward the top 30, to conform to the shape of the upper portion of the step ladder.

A handle 32 is sewn, riveted or otherwise secured to the top 30 of the tool carrier 10 in a manner capable of supporting the weight of the carrier and tools therein when

carried by handle such that the carrier can be quickly and easily installed onto and removed from the ladder, by simply grabbing the handle and lowering and raising the carrier, respectively, from the top of the ladder, and such that the carrier and tools therein are easily carried from place to place when not on the ladder.

Tools and other desired items such as useful when working on a step ladder are slidably received and carried in upwardly opening pockets provided on the skirt 40.

To this end, the front and back panels 26a, 26b are provided with upwardly opening pockets such as pockets 42 and 44 having upper open ends sized and shaped to slidably receive tools, with the pockets being preferably pre-shaped and upper edges sufficiently spaced from the skirt to permit tools to easily slip into and out of the pockets.

In the embodiment shown, the skirt side panels 28 are provide with relatively snug fitting pockets 46 adapted to carry larger-sized tools in specialized tool holders (discussed below). Alternately, the side panels are provided with open pockets similar to pockets 42 and 44 or alternate pockets such as described below.

The tool carrier 10 is made from durable, relatively stiff material construction suitable for use in connection with slidably receiving and holding tools and retaining its upright shape with the bottom of the skirt resting on a horizontal surface while loaded with tools.

For example, it has been found that certain relatively stiff canvas, leather, and imitation leather materials are suitable for use in constructing the tool carrier and supporting the weight of the tools both when positioned on a ladder and when setting upright on a horizontal surface. Alternately, for example, the tool carrier can be formed from molded plastic.

Each such alternate material has known advantages and disadvantages.

a) Canvas fabric is relatively durable, is less costly, and is more easily sewn together than leather material. Advantageously, canvas is foldable into a relatively flat arrangement for ease of storage in a drawer, on a shelf or otherwise, if desired.

b) Leather is typically more durable than canvas after extended use.

c) Molded plastic will typically offer the greatest durability of the materials mentioned, and in large quantities, can be manufactured at less cost. On the other hand, a molded plastic tool carrier in accordance herewith is provided with molded fold lines, joints or integral hinges to be foldable for storage, otherwise the molded plastic tool carrier will be less convenient for certain users.

In the embodiment shown in Figures 1-7, the tool carrier is made from a relatively stiff, reinforced canvas fabric.

In this instance, the top panel 30, the front and back panels 26a, 26b, and the side panels 28 are formed from pieces of canvas sewn together along respective boundaries as indicated by hem lines 50.

An edge strip 52 is wrapped around the lower edges of the front, back and side panels and sewn as indicated to close and provide additional edge stiffness to the edges thereof.

The handle 32 is sewn with double stitching near its free ends to the top panel 30 of the carrier 10.

The front and the back panels are provided with cascading rows of upper pockets 42 and lower pockets 44.

The lower pockets 44 extend upwardly from the bottom portion of the skirt to approximately one-third the height of the carrier, and the upper pockets 42 extend from inside the lower pockets, such as from near the lower portion of the skirt, upwardly to approximately two-thirds the height of the carrier.

During fabrication of the tool carrier 10, the bottom and sides of the pockets 42, 44 are sewn to the front and back panels, with the upper pockets being first sewn to the panels and the lower pockets being sewn to the panels outwardly of the lower portion of the upper pockets.

In preferred fabrication techniques, the upper pockets are formed from an appropriately shaped single sheet of canvas fabric with the upper hem sewn therein, with the bottom of the pockets being first sewn to the panel, and the pockets being then shaped and sewn therebetween to the panels as shown. The lower pockets and end pockets are also preferably formed similarly from appropriately shaped single pieces of canvas.

Alternately, the pockets may be configured as desired, with certain pockets being specially adapted for specific tools or other specific uses such as discussed further below.

In accordance with another aspect of the invention, the tool carrier 10 is uniquely adapted to receive tool holders for holding specific or larger-sized tools and other items of use while on a ladder or otherwise using the tool carrier.

In carrying out this aspect of the invention, the tool holders are provided with (preferably, for stable support, a pair of) elongated legs sized and shaped to be slidably but snugly received in the pockets 46 on the side panels 28, and an upper tool-receiving portion sized and shaped to receive and hold the desired tools.

By way of an example tool holder hereof, a ring tool holder 300 is shown in the drawings in Figures 24-26. The ring tool holder 300 is provided with an open ring portion

310, having open upper and lower ends and an upper flat surface 330, and connected to a pair of elongated legs 320 sized and spaced to fit snugly into the pockets 46. With this arrangement, the ring tool holder, and thus the tool carrier, is capable of carrying tools of a type that include a ledge portion sized to rest on the top 330 of the ring and an elongated portion that extend down through the ring such as a portable electric hand-drill.

By way of another example, an alternate ring tool holder 200 is illustrated in Figures 21-23. In this instance, the bottom of the ring is closed to receive and support items therein such as elongated tools, a butane tank and other objects too large or too numerous to fit into the pockets 42 and 44.

In view of the disclosure hereof, it will be apparent to those skilled in the art that alternately shaped tool holders are equally suitable for use with the tool carrier 10, including specially shaped holders for specific tools.

As an example of a specially shaped tool holder in accordance herewith, a paper towel roll tool holder 400 is shown in Figures 27-28. In this instance, the legs 420 are separated for insertion into one pocket 46 on each side of the carrier 10. With the legs inserted into the pockets, a stub shaft 430 extends inwardly from each leg and rollably receives the tube 440 therebetween to carry a paper towel roll 450. Alternately, the legs may be formed at an angle

to position the paper towel roll beside rather than above the tool carrier.

In accordance with another aspect of the present invention, an alternate embodiment tool carrier 100 shown in Figures 9-16 is uniquely adapted for size expansion and contraction, to promote a snug fit on a step ladder and assist in fitting snugly on step ladders of different sizes, and includes a unique frame structure adapted to permit such expansion and contraction and to assist in supporting the weight of the carrier filled with tools when resting on a horizontal surface such as a table or shelf.

In construction similar to tool carrier 10, the tool carrier 100 is generally formed with canvas-like fabric, and includes a top 130, and a skirt 140 comprising front and back panels, 126a and 126b, respectively, and side panels 128, sewn together with hems generally designated as reference numeral 150 depending downwardly from the perimeter portion of the top. The top is shaped to conform to the rectangular shape of the top step 22 of the ladder 20, the front and back panels are generally rectangular, and the side panels are trapezoid in shape, such that they cooperate to encircle and conform to the shape of the upper portion of the step ladder. A handle 132 is sewn or otherwise connected to the top 130 to facilitate manual positioning and movement of the tool carrier as desired, and

the skirt is provided with pockets to receive and hold desired tools.

In the embodiment shown, the tool carrier 100 includes cascading pockets 142 and 144 of various sizes, snug side pockets 146, and pockets designed and adapted for other specific purposes.

In this instance, the carrier 100 is provided with an expandable mesh pocket 148 preferably with an elastic upper perimeter suitable for carrying, for example, a water or thermos bottle (or other items that are free of sharp edges that might cut the mesh material), a pocket 152 with a flap or cover 154 releasably securable to the pocket such as with a snap (not shown) or complimentary hook and loop fastening patches 156, pockets 158 sized for carrying pencils and other slender tools, and cascading pockets 160 having elastic sewn into the upper edges for a snug fit around the tools positioned therein.

Available design freedom for providing alternate tool holding apparatus is also illustrated with the strap 162 extending from one corner of the carrier 100. In this instance, the free end of the strap is provided with tool carrying accessory such as a hook for hanging a flashlight or other items equipped with a hook-receiving member, or a rod adapted to releasably carry, for example a roll of electrical tape.

In carrying out the expandable framework aspect of the invention, a frame structure 170 includes a top frame member 172, front and back frame members 174 and side frame members 176. These frame members are illustrated in Figure 17 in their normal position, with the remainder of the tool carrier not shown.

As illustrated, each frame member is formed independent of one another, and is secured into associated top 130, front and back 126a, 126b, and side 128 canvas panels around the edges thereof such that the frame members move with the associated panel but independently of each other.

In further carrying out the expandable framework aspect of the invention, elastic bands 134 are secured between the edge portions of adjacent top, front, back and side panels to permit independent movement of the panels.

In particular, the elastic bands 134 are sewn between adjacent panels in a manner that results in a folded material portion 180 between the panels with the bands in a relaxed (i.e., unstretched) position as shown in detail in Figures 18-19, and such that the folded material portions 180 straighten, expanding the interior space in the tool carrier and increasing the size of the carrier, when the elastic bands stretch as shown in detail in Figure 20.

Thus, as the tool carrier is slipped downwardly over the top step of the ladder, and the insides of the panels engage the upper portion of the ladder, the panels and the

associated frame members expand outwardly (to the extent of the elastic limit of the bands 134 and the length of the folder material 180) to obtain a snug fit on the ladder.

In an alternate construction embodiment of the expandable tool carrier (not shown), the top, front, back, and side panels are constructed from two pieces of canvas, with the associated frame member sewn therebetween near the perimeter thereof. The panels are then interconnected with separate fabric strips extending along the length of the sides of the adjacent panels, with the ends of the elastic bands sewn in position between the edges of the panels and the fabric interconnecting strips.

Those skilled in the art, in view of the disclosure hereof, will understand and appreciate that numerous additional alternate constructions, features, and embodiments may be included with and/or incorporated into a tool carrier hereof without departing from the scope and spirit of the invention.

From the foregoing, it will be apparent that the present invention brings to the art a new and improved tool carrier for step ladders. Among other things, by virtue of the self-supporting nature of the tool carrier, including the preferred expandable/contractable embodiments and provision of the independently movable framework members and associated elastic bands, the tool carrier is uniquely adapted for convenient use both on and off of a step ladder.

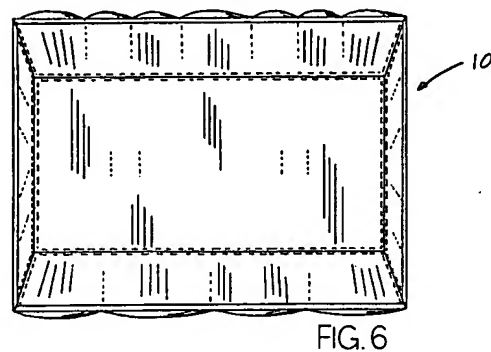
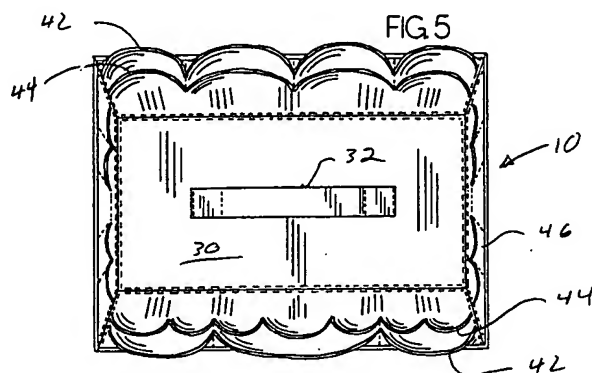
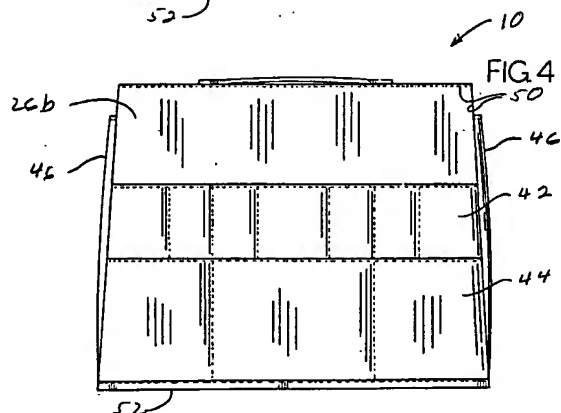
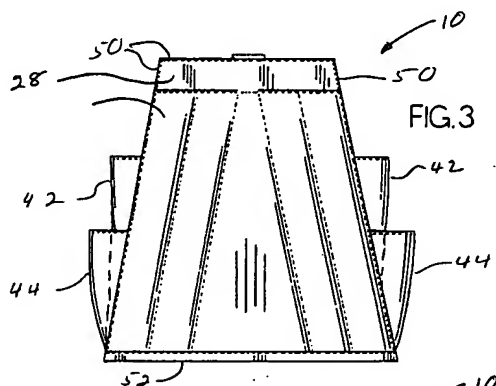
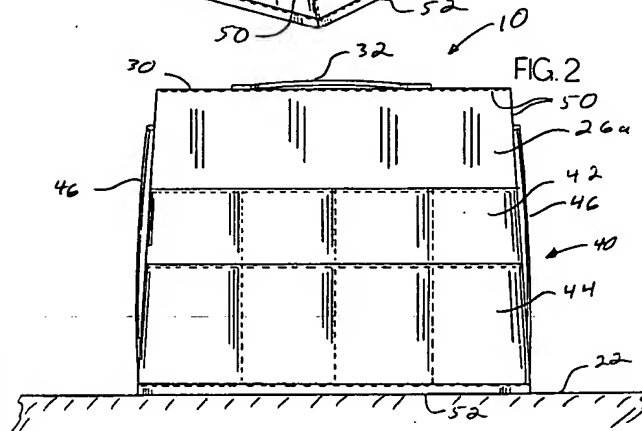
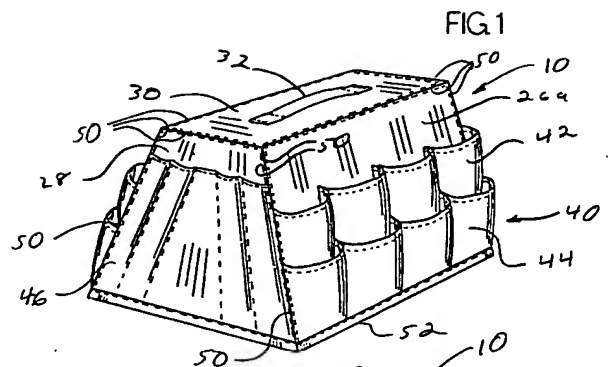
I claim:

1. A tool carrier adapted for positioning on the top step of a step ladder, the tool carrier comprising:

- a) a top panel shaped for resting on the top step of the ladder,
- b) a skirt depending downwardly from the perimeter of the top panel and sized to encircle the upper portion of the ladder,
- c) the skirt having a lower perimeter adapted for resting thereof on a horizontal surface,
- d) the skirt including front and back panels and side panels interconnected for a sliding but relatively snug fit around the upper portion of the ladder,
- e) a plurality of pockets on the panels, the pockets being sized to adapted to slidably receive and carry tools therein,
- f) a frame including front, back and side frame members connected to associated ones of the panels, and
- g) elastic bands interconnecting adjacent perimeter portions of the panels such that the panels and associated frame members are independently moveable for expansion and contraction therebetween.

Abstract of the Disclosure

A. A portable tool carrier includes a top adapted to rest on the top step of a step ladder, and a skirt comprising four sides that extending downwardly from the perimeter of the top and are sized to fit slidably but snugly around the upper portion of the step ladder. The sides are provided with pockets adapted to receive and releasably carry relatively small items such as hand tools, pencils, butane torches, small power drills or screwdrivers and the like for ease of access and storage when working on the ladder. In preferred embodiments, the sides are connected for expansion and contraction of the interior space of the bag, to promote a snug fit onto the top of the ladder, and is provided with a frame structure that permits such expansion and contraction and assists in supporting the carrier and tools therein when sitting on a shelf or other horizontal surface by maintaining the structural shape of the carrier.



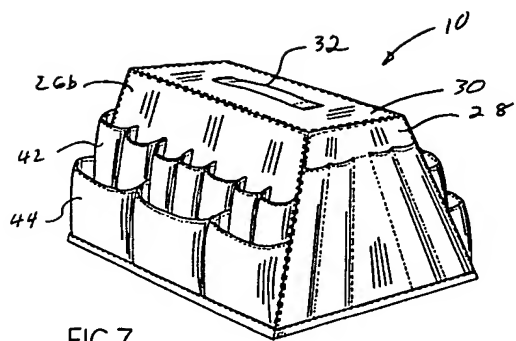


FIG. 7

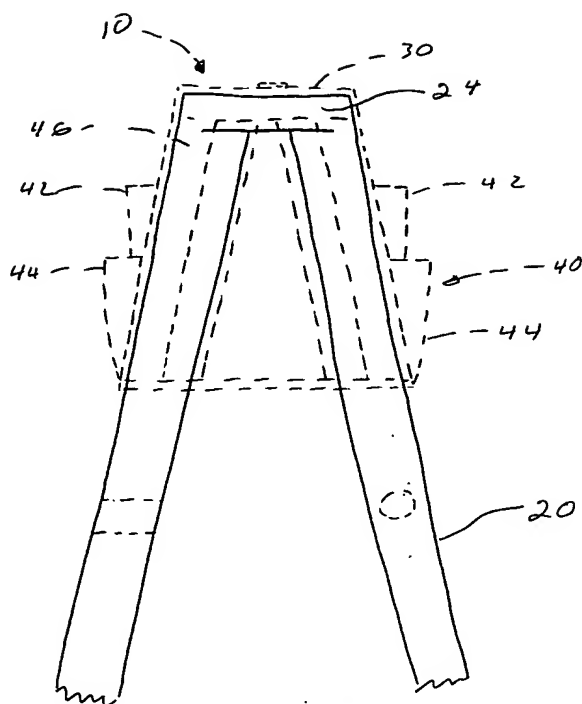


FIG. 8

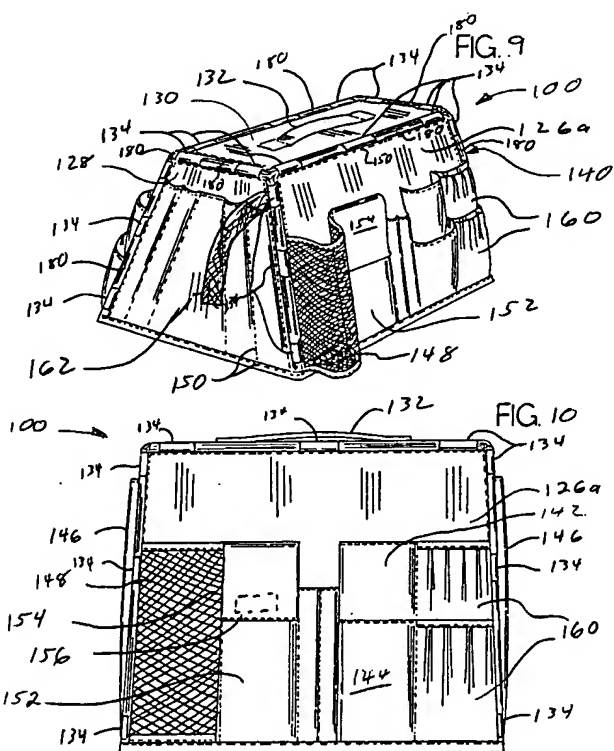


FIG. 10

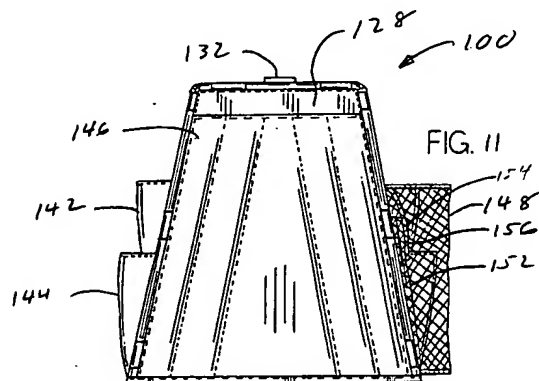


FIG. 11

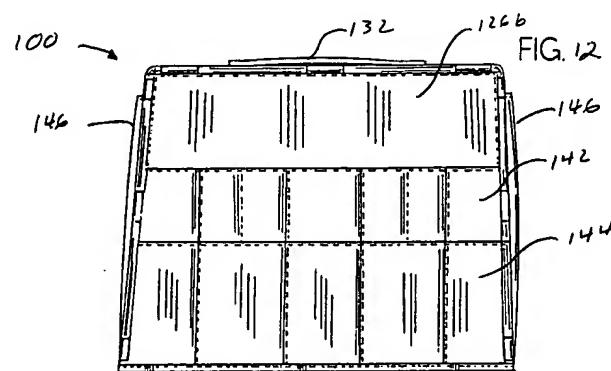


FIG. 12

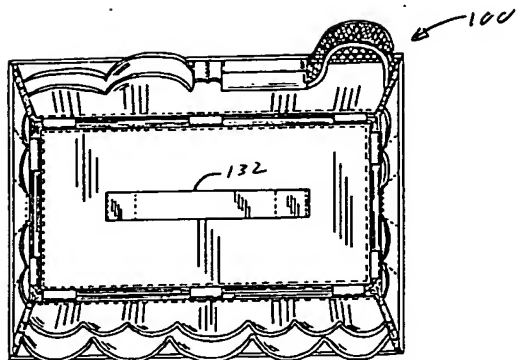


FIG. 13

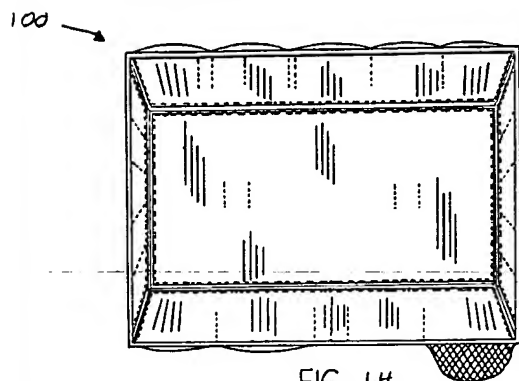


FIG. 14

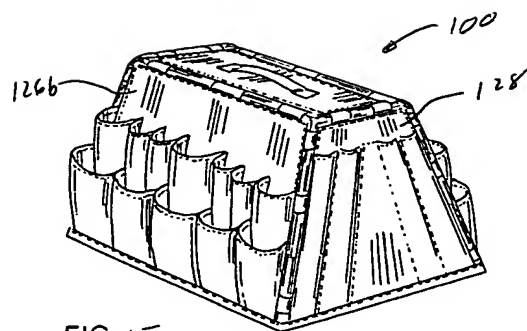


FIG. 15

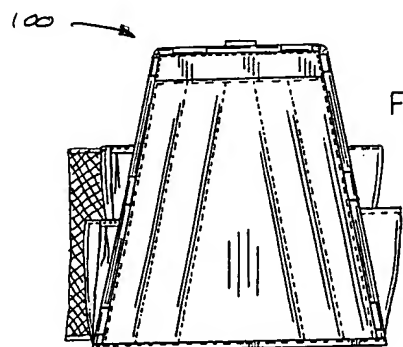


FIG. 16

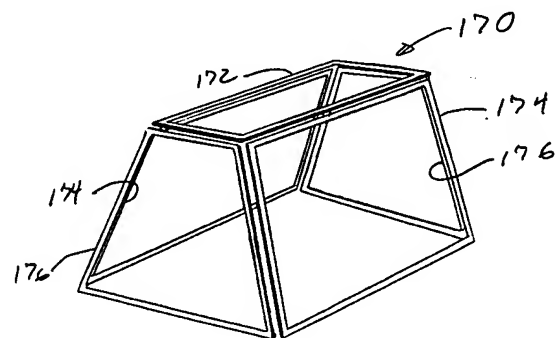


FIG. 17

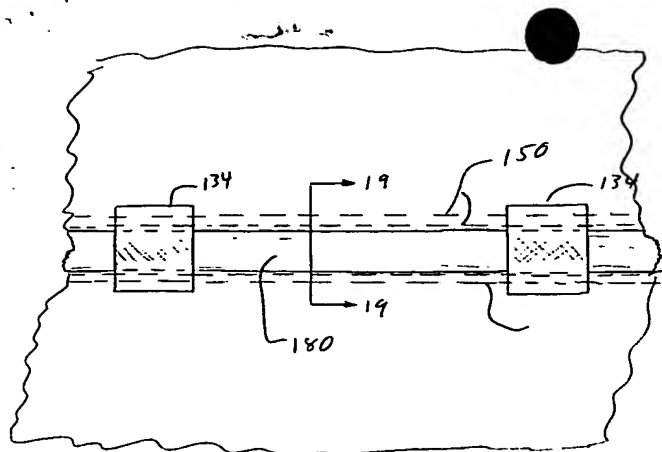


FIG. 18

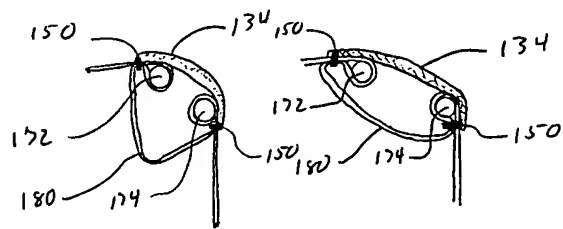


FIG. 19

FIG. 20

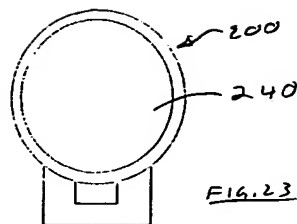


FIG. 23

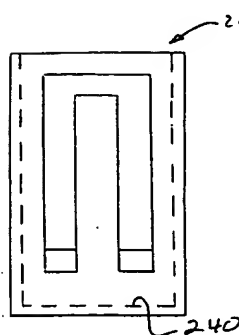


FIG. 22

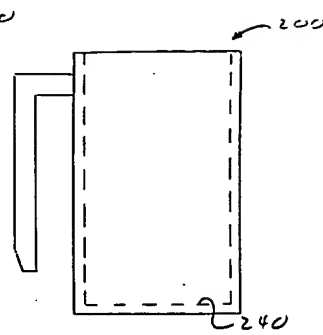


FIG. 21

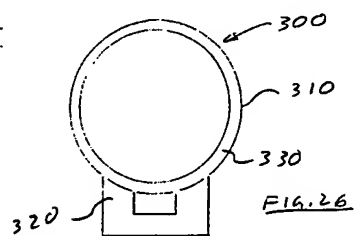


FIG. 26

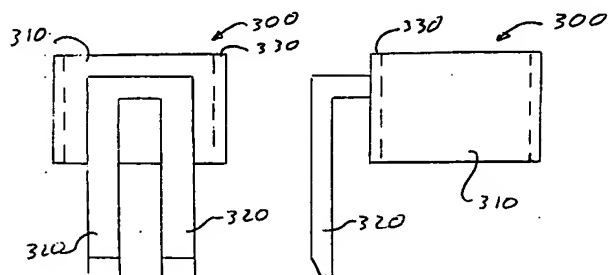


FIG. 25

FIG. 24

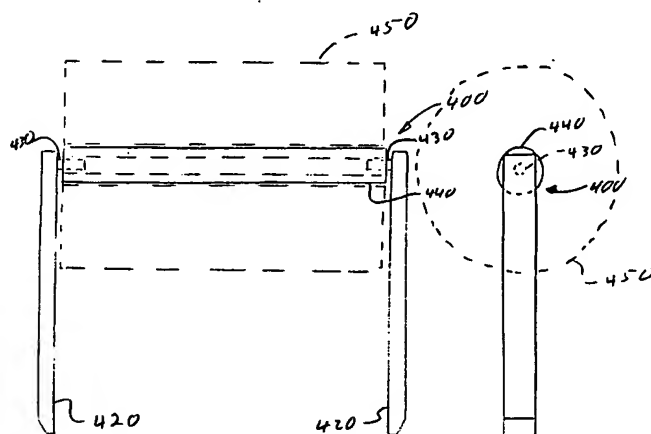


FIG. 27

FIG. 28

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